

What is claimed is:

1. An optical element molded between a first die and a second die which are jointed along a partition line, comprising:

a first optical surface on which a diffractive structure is provided;

a second optical surface being a refractive surface opposite to the first optical surface;

a flange having a flange surface provided around a periphery of the optical element, a first edge portion of the flange surface adjoining to the first optical surface and a second edge portion of the flange surface adjoining to the second optical surface,

wherein the second edge portion is positioned at the partition line between the first die and the second die.

2. The optical element of claim 1, wherein the flange has a side surface at the second edge portion and the side surface is tapered from the second edge portion.

3. The optical element of claim 1, wherein the optical element has an optical axis and the flange surface is parallel to the optical axis.

4. The optical element of claim 1, wherein the diffractive structure of the first optical surface is shaped in a plurality of ring-shaped diffractive zones.

5. The optical element of claim 4, wherein the plurality of ring-shaped diffractive zones is a plurality of ring-shaped steps.

6. A method of producing an optical element by a molding die, wherein the optical element has a first surface on which a diffractive structure including a plurality of stepped portions is formed and a second surface and the molding die comprises a first die having a first concave shaped in a form corresponding the first surface of the optical element and a second die having a second concave shaped in a form corresponding to the second surface of the optical element, the method comprising steps of:

jointing the first die and the second die so that a void space corresponding to an external figure of the optical

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element is formed between the first concave of the first die and the second concave of the second die;

injecting a resin into the void space so as to mold the optical element;

separating the second die from the first die in which the molded optical element is left; and

removing the molded optical element from the first die.

7. The method of claim 6, wherein the first die comprises a pushing mechanism to push out the molded optical element from the first die and the removing step comprises a step of pushing out the molded optical element from the first die.

8. A method of producing an optical element by a molding die, wherein the optical element has a first surface on which a diffractive structure including a plurality of stepped portions is formed and a second surface and the molding die comprises a first die having a first concave shaped in a form corresponding the first surface of the optical element and a second die having a second concave shaped in a form corresponding to the second surface of the optical element, the method comprising steps of:

jointing the first die and the second die so that a void space corresponding to an external figure of the optical element is formed between the first concave of the first die and the second concave of the second die;

injecting a resin into the void space so as to mold the optical element;

separating the second die from the first die in which the molded optical element is left; and

pushing out the molded optical element from the first die with a pushing mechanism provided to the first die.

FOOTNOTES